

**Conversion Instructions: The Suction Unit****Contents**

|       |  |   |
|-------|--|---|
| 1     | Scope.....                             | 1 |
| 2     | Included with these Instructions ..... | 1 |
| 3     | Tools / Test Equipment .....           | 1 |
| 3.1   | Tools: .....                           | 1 |
| 3.2   | Test Equipment .....                   | 1 |
| 4     | Instructions.....                      | 2 |
| 4.1   | General: .....                         | 2 |
| 4.2   | Converting the Suction Unit.....       | 2 |
| 4.2.1 | Converting the Bypass Valve .....      | 2 |
| 4.2.2 | Upgrading Tubing .....                 | 3 |
| 4.3   | Assembly.....                          | 3 |
| 4.4   | Final Testing.....                     | 3 |

**1 Scope**

These Conversion Instructions are intended for use in upgrading Julian 8601125 with the vacuum suction unit (Increase the suction power).

**2 Included with these Instructions**

The Conversion Kit "Vacuum Suction Julian 8601971, standard" contains the following:

|       |                         |         |
|-------|-------------------------|---------|
| 1     | Conversion Instructions | 8601971 |
| 1     | bypass valve            | MK00313 |
| 1     | T-piece                 | MK00324 |
| 0.99m | hose, 6*2.5             | 1197851 |
| 1     | angular plug connector  | M30961  |
| 1     | cap                     | M31601  |
| 2     | tie straps              | 8712007 |

**3 Tools / Test Equipment****3.1 Tools:**

A basic set of tools will be needed.

**3.2 Test Equipment**

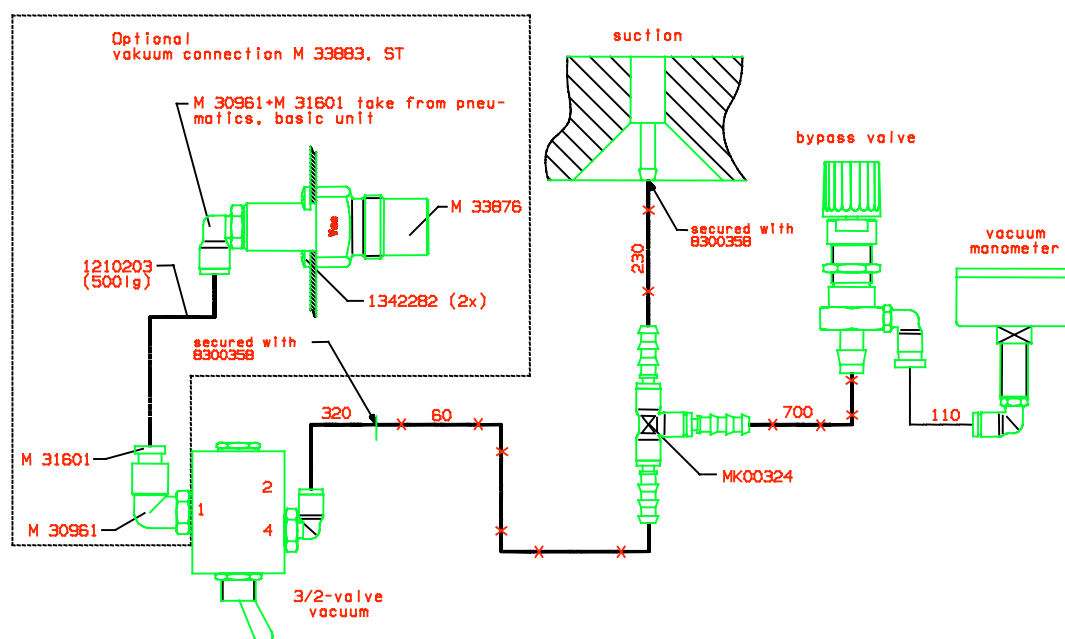
Basic test equipment will be needed.

## 4 Instructions

### 4.1 General:

Dismount the back panel from the Julian anesthetic machine. Remove the breathing system. Loosen the mounting screws of the pneumatics box and pull out the box from the housing. Disconnect hoses and plug connectors in order to completely remove the pneumatics box from the Julian anesthetic machine. If needed, loosen the mounting screws on the guides.

### 4.2 Converting the Suction Unit



#### 4.2.1 Converting the Bypass Valve

Mark the position of the retainer for the facing on the pneumatics sheet. Loosen the display and operational control's pneumatic plug connector inside the facing. Loosen both (2) nuts and (2) screws holding the retainer and remove the retainer and facing from the pneumatics box. Remove the old flexible tubing connecting the ejector and the bypass valve from the pneumatics box.

Remove the facing from the retainer. Unscrew the old bypass valve from the retainer.

Remove the rotary knob from the bypass valve (MK00313) included in the kit. To make this easier, remove the cap and loosen the spring chuck using pliers. Remove the angular plug connector from the bypass valve in order to connect the manometer. Unscrew the brass-colored lower part of the bypass valve so that the valve is in two parts. Screw the brass-colored lower half into the retainer from the back about three (3) turns and secure from behind using the nuts included in the kit.

Connect the other half (front) of the bypass valve by screwing it in from the front and tighten using a spanner wrench. Mount the male connector for the manometer connection to the bypass valve. Mount the facing to the retainer.

Connect the hose included in the kit (700 mm) to the bypass valve and mount the retainer according to the position previously marked (see above). Place the hose connecting the bypass valve to the ejector assembly inside the pneumatics box in such a way as to avoid kinking or bending when the pneumatics box is slide back into the housing (place it between the two (2) blue plugs on the Ventdos controller). Arrange the other hoses carefully along the display and operational control on the facing.

#### **4.2.2 Upgrading Tubing**

Lay out tubing between reversing valve hose, 6 mm PAE, for the suction unit and the suction nozzle in the side panel according to tubing diagram 1. Insert the PAE hose into the silicon hose and secure using the tie straps included in the kit. Fasten the hose to the suction nozzle inside the side panel using the tie straps (8712007) included in the kit.

Connect the bypass valve hose to the T-piece (MK00324) already in place according to tubing diagram 1.

#### **4.3 Assembly**

Mount the pneumatics box. Mount the cable and flexible tubing and carefully insert the whole pneumatics box so that none of the cables or tubing is kinked or bent.

Insert the breathing system.

Carry out the power-on self test. Leakage  $\leq 85\text{ml/min}$ .

Check the suction unit: When the suction unit is switched on, suction should be distinctly detectable at the nozzle in the side panel. After the nozzle has been closed off, low (negative) pressure should be able to be controlled through the bypass valve.

Mount the back panel on the Julian anesthetic machine.

#### **4.4 Final Testing**

After conversion, safety testing must be carried out according to the Julian Test Certificate, step 22.

In addition, IPPV should be checked according to step 23.2.4 of the Test Certificate.

Ventilate the sample line during normal operation in order to make sure that the CO<sub>2</sub> curve is displayed on the Julian screen.